

1995 Missouri Pregnancy Nutrition Surveillance System

Executive Summary

The Pregnancy Nutrition Surveillance System (PNSS) was initiated in 1979 by the Division of Nutrition, Centers for Disease Control and Prevention (CDC). The system is designed to monitor the trends and prevalence of prenatal risk factors, which are major predictors of infant mortality and low birth weight, as well as to monitor infant feeding practices. Nutrition-related indicators monitored are pre-pregnancy weight, prenatal weight gain and iron deficiency. Maternal behaviors such as smoking and alcohol consumption are also investigated. The relationships between nutritional status, prenatal behaviors and birth outcomes are examined.

The Missouri PNSS population does not include all pregnant women in the state. This report describes only the characteristics of low income women who participate in public health programs. In 1995, data were obtained primarily from The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) with minor contributions from the Maternal and Child Health (MCH) programs and Combined programs (99.1, 0.2 and 0.7%, respectively). Of the 42,346 total records accepted, 71.3% were complete records (records that included information from prenatal and postpartum visits); 20.5% had postpartum visit information only and 8.2% had prenatal visit information only.

Sociodemographic Characteristics

The 1995 surveillance population in Missouri consisted primarily of two ethnic groups White (72.5%) and Black (24.5%), with minor contributions from Hispanics of 2.0%, Asians, 0.9% and American Indians, 0.2%. Over half (56.4%) of the women were 20-29 years of age, 28.5% were under 20, 14.4% were 30-39 and 0.6% were 40-49 years old.

Close to half of the survey population (43.9%) were high school graduates, 36.8% had not completed high school; and 19.3% had an education level beyond high school. Over one-third (37.1%) of the women were married, 62.9% were not married, and marital status was not known for 0.1% of the population.

Health Indicators

Anemia

Hemoglobin and/or hematocrit values that are below the normal range are used as crude indicators of anemia or low iron status. The overall prevalence of anemia during the prenatal period (all stages of pregnancy combined) was 16.5%. As pregnancy progressed, the prevalence rate of anemia increased from 9.6, 15.0 and 36.8% for the first, second and third trimester, respectively. At postpartum, the rate was 47.2%. The highest rates of anemia at all stages of pregnancy and at postpartum were seen among Black women and among the teenage populations.

Pre-pregnancy Weight

Both prepregnancy height and weight information were available to derive body mass index (BMI) values for 99.1% of the surveillance population. Based on prepregnancy BMI, 17.5% of the women were underweight (BMI <19.8) and 35.0% were overweight (BMI >26.0) prior to pregnancy. The prevalence of prepregnancy underweight was highest in Asians (35.3%) compared to other ethnic groups and in women under 16 years of age (25.7%), with the rate dropping with advancing age to 8.8% among the 40-49 year-olds. Conversely, the prevalence of overweight prior to pregnancy increased with age from 16.8% for those under 16 to a rate of 49.9% for the 40-49 year-olds. Among ethnic groups, Asians had the lowest prevalence of overweight at 9.2%.

Weight Gain During Pregnancy

Determination of the adequacy of weight gain during pregnancy is based on the woman's weight status prior to pregnancy. Excluding Prenatal Only records, close to half (45.7%) of the women were reported to have gained within the ideal weight range during pregnancy. Fewer women who smoked (44.4%) and who consumed alcohol (43.9%) as compared to non-smokers (46.4%) and non-drinkers (45.9%) met their ideal weight gain during pregnancy.

Smoking

Over one-fourth (28.0%) of the women reported smoking during pregnancy. The prevalence rate was highest among 30-39 year-olds (35.8%), white women (33.3%), not married (30.0%) and those who had completed 9-11 years of education (34.5%). Of those women who smoked, the majority (72.8%) consumed 10 or fewer cigarettes per day. Among women seen at the first prenatal visit, 16.4% reported a decrease in smoking during pregnancy while only 6.9% reported that they stopped smoking completely.

Drinking

A small proportion of the Missouri PNSS population (0.8%) reported consuming alcohol during pregnancy. More white women (12.3%) drank alcohol three months prior to pregnancy than black women (7.1%) whereas, more black women reported drinking during pregnancy (1.1%) and the last three months of pregnancy (3.4%) as compared to white women at 0.7% and 1.2%, respectively.

Birth Outcomes

The prevalence rate for low birth weight (LBW) or those weighing 500 to 2499 grams at birth was 9.3%; the majority (82.2%) of the infants were born of normal weight (2500-3999 grams). A small percentage (2.6%) of infants were stillborn, 11.3% were delivered at less than 37 weeks and 12.2% after 41 weeks of gestation. The highest prevalence rate of LBW infants was of black mothers (11.9%) while white mothers had almost two

times the rate of high birth weight (HBW) infants (9.5%) as compared to black mothers (4.8%). The rates of LBW were 6.3, 3.9 and 15.6%, respectively for women who achieved the ideal, greater than ideal and less than ideal weight gain during pregnancy. Mothers who were of normal weight, underweight, and overweight prior to pregnancy, had LBW rates of 7.8, 25.1 and 12.2%, respectively. Mothers who smoked had a LBW rate of 9.5% while the rate for non-smokers was 6.2%. Mothers who consumed alcohol during pregnancy had a LBW rate of 12.5% while the rate was 7.1% for non-drinkers.

Infant Feeding Practices

An examination of infant feeding practices revealed that 39.4% of the surveillance population reported having ever breastfed their infants, and the prevalence rates for mothers who breastfed their infants exclusively and partially were 15.9 and 11.8%, respectively. Of the women enrolled in WIC during pregnancy, 39.0% initiated breastfeeding.

Hispanic (49.3%) and Asian (43.8%) women were more likely, while black women were the least likely (18.4%) to breastfeed their infants either exclusively or partially. A direct relationship was seen with age and education level to the rate of breastfeeding. A greater number of older mothers exclusively or partially breastfed their infants as compared to the younger mothers, at 42.5, 36.1, 28.9, 21.0, and 15.5% for 40-49, 30-39, 20-29, 16-19, and less than 16 years of age, respectively. Women who had 16 or more years of education had a breastfeeding rate of 58.5% followed by rates of 40.5, 27.7, 18.8 and 20.5% for those who had completed from 13 to 15, 12, 9 to 11 and 0 to 8 years, respectively.